



Information about the subject

Degree: Bachelor of Science Degree in Dentistry

Faculty: Faculty of Medicine and Health Sciences

Code: 481107 **Name:** Microbiology

Credits: 6,00 **ECTS Year:** 1 **Semester:** 2

Module: Module 1: Relevant Basic Biomedical Sciences in Dentistry

Subject Matter: Biology **Type:** Compulsory

Field of knowledge: Health sciences

Department: Biomedical Sciences

Type of learning: Classroom-based learning

Languages in which it is taught: English, Spanish

Lecturer/-s:

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Module organization

Module 1: Relevant Basic Biomedical Sciences in Dentistry

Subject Matter	ECTS	Subject	ECTS	Year/semester
HUMAN ANATOMY	12,00	Embryology and General Anatomy I	6,00	1/1
		General Anatomy II and Oral Anatomy	6,00	1/2
Biology	18,00	Biology	6,00	1/1
		Histology	6,00	1/2
		Microbiology	6,00	1/2
Physiology	6,00	Human and Oral Physiology	6,00	1/2
Biochemistry	6,00	Biochemistry	6,00	1/1
MODERN LANGUAGE	12,00	Modern Language: English	6,00	2/2
		Modern language: Spanish	6,00	2/2



Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

- R1 Distinguishes the different levels of organization of living beings.
- R2 Knows how to distinguish the different types of tissues.
- R3 Identifies cellular structures and organelles.
- R4 Looks for information in bibliographic sources, and knows how to analyze them.
- R5 Knows the basics of Microbiology and the main microorganisms related to the infectious processes that affect man.
- R6 Knows the basic principles of obtaining and transporting samples to the laboratory, as well as their processing.
- R7 Knows the main techniques of microbiological diagnosis and the proper interpretation of all of them being able to issue a diagnosis in relation to oral pathology.
- R8 The student knows the mechanism of action of antibiotics and the main indications of their therapeutic use.
- R9 Knows the main methods of sterilization and disinfection, in order to apply them properly.
- R10 Knows the most relevant clinical pictures of infectious etiology in the clinic and especially in dentistry.
- R11 The student is able to adequately record the information obtained and prepare reports for multidisciplinary teamwork.
- R12 Searches for bibliographic information from different sources (including English) and know how to analyze it with a critical and constructive spirit.



Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

GENERAL	Weighting			
	1	2	3	4
CG1 I aCapacity for analysis and synthesis			X	
CG2 I bOrganizational and planning skills		X		
CG12 FInterpersonal skills		X		
CG3 I cOral and written communication in the native language		X		
CG4 I dKnowledge of a foreign language		X		
CG14 FCritical Reasoning		X		
CG6 I fInformation management capacity		X		
CG16 SAutonomous learning			X	
CG7 I gProblem solving			X	
CG17 SAdaptation to new situations		X		
CG8 I hDecision making			X	
CG9 P iTeamwork			X	
CG19 SLeadership			X	
SPECIFIC	Weighting			
	1	2	3	4



Year 2025/2026
481107 - Microbiology

<p>tals of action, indications and efficacy of ic interventions, knowing their ons, systemic effects and interactions on ailable scientific evidence.</p>			X	
<p>e the principles of ergonomics and safety of cross-infection, radiation protection and al diseases).</p>				X
<p>nd know how to use clinical and ources to obtain, organize, interpret and d health information.</p>			X	
<p>d and have the critical capacity to value the d the new information. Be able to ect and critically evaluate information for , following the scientific method.</p>			X	
Weighting				
	1	2	3	4
ills			X	
ng capacity		X		

[illegible]



1. c.	Oral and written communication in the native language.			X
1. d.	Knowledge of a foreign language	X		
1. f.	Information management capacity	X		
1. g.	Problem solving	X		
2. i.	Teamwork	X		
2. l.	Interpersonal skills	X		
2. o.	Ethical commitment	X		
3. u.	Initiative and entrepreneurship	X		
3. v.	Motivation for quality		X	



Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R5, R8, R9, R10	60,00%	MULTIPLE CHOICE TEST: Multiple choice test with one correct answer. This shows to greater extent the contents acquired by the student.
R4, R8, R11, R12	10,00%	PRESENTATION: The student develops by means of an oral presentation, supported with audio-visual materials, a theme or topic given by the teacher. At the end of the presentation, the teacher or audience may ask questions.
R2, R3, R6, R7	10,00%	PRACTICAL: Written test in which the student is asked to solve practical exercises, clinical cases or problems about the contents of different subjects.
R2, R3, R6, R7, R9	20,00%	PRACTICAL EXAM: The student carries out a test in which he/she must show by means of practical application the acquisition of certain knowledge. For example, histological or anatomopathological diagnoses, interpretation of images or diagnostic tests.

Observations

To pass the subject, a grade of 5 or higher must be obtained in both the theoretical and practical parts of the subject. If one part of the subject (theory or practice) is passed and the other is failed in the first attempt, the grade of the passed part will be retained for the second attempt. If, at the end of the second attempt, only one part of the subject has been passed, the grade will not be retained for the following academic year. Attendance at practical sessions is mandatory, and absences must always be justified. Only one laboratory absence is allowed provided it is justified. An unjustified absence from a practical session will result in a 10% penalty in the practical exam score. Unjustified absences from two or more practical sessions will result in a 50% penalty in the practical exam score.

Awarding of Honors: Honors may be awarded to the top students as long as they achieve an overall grade of 9 or higher.

The maximum number of Honors Certificates granted will follow the following rule:- From 1 to 39 enrolled students: 1 Honors Certificate.- From 40 to 59 enrolled students: 2 Honors Certificates.- From 60 to 79 enrolled students: 3 Honors Certificates.



CRITERIA FOR AWARDING HONORS DIPLOMA: In accordance with the regulations governing the evaluation and grading of the subject in force at UCV, the mention of "Honors Diploma" may be awarded to students who have obtained a grade equal to or higher than 9.0. The number of "Honors Diplomas" may not exceed five percent of the students enrolled in the group in the corresponding academic year, except when the number of enrolled students is fewer than 20, in which case only one "Honors Diploma" may be awarded. Exceptionally, honors diplomas may be assigned among the different groups of the same subject on a global basis. However, the total number of honors diplomas to be awarded will be the same as if they were assigned by group, but they may be distributed among all students according to a common criterion, regardless of the group to which they belong.

CRITERIA FOR GRANTING AN HONORS CERTIFICATE: According to Article 22 of the Regulations Governing the Evaluation and Grading of Courses at UCV, the mention of "Honors Certificate" may be awarded by the professor responsible for the course to students who have achieved an "Outstanding" grade. The number of "Honors Certificate" mentions that can be awarded shall not exceed five percent of the students included in the same official record, unless this number is less than 20, in which case a single "Honors Certificate" may be granted.

In this subject, the possibility of a single assessment is not considered, as the mandatory completion of practical activities with active student participation is required.

MENTION OF DISTINCTION:

In accordance with the regulations governing the assessment and grading of subjects in force at UCV, the distinction of "Matrícula de Honor" (Honours with Distinction) may be awarded to students who have achieved a grade of 9.0 or higher. The number of "Matrículas de Honor" (Honours with Distinction) may not exceed five percent of the students enrolled in the group for the corresponding academic year, unless the number of enrolled students is fewer than 20, in which case a single "Matrícula de Honor" (Honours with Distinction) may be awarded. Exceptionally, these distinctions may be assigned globally across different groups of the same subject. Nevertheless, the total number of distinctions awarded will be the same as if they were assigned by group, but they may be distributed among all students based on a common criterion, regardless of the group to which they belong. The criteria for awarding "Matrícula de Honor" (Honours with Distinction) will be determined according to the guidelines stipulated by the professor responsible for the course, as detailed in the "Observations" section of the evaluation system in the course guide.

Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:



- M1 Lecture.
 Problem Solving.
 Explanation of contents by the teacher.
 Explanation of knowledge and skills.
- M2 Practical basic sciences laboratory sessions, practical
 simulation laboratory sessions, virtual hospital and
 dissecting room.
- M10 Carrying out bibliographic reviews and practical work experience dissertations.
- M13 Personal preparation of written texts, essays, problem solving, seminars.
- M15 Personalised Attention. Period of instruction and/or guidance carried out by a tutor with
 the aim of analysing with the student his/her work, activities and evolution in learning of
 subjects.



IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
THEORY CLASS M1	R4, R5, R7, R8, R10, R11, R12	46,00	1,84
SEMINAR M13	R5, R7, R12	2,00	0,08
TUTORING M15	R5, R11, R12	2,00	0,08
EVALUATION M1, M2, M10	R5, R6, R7, R8, R9, R10, R11	2,00	0,08
PRACTICAL CLASS M2	R6, R7	8,00	0,32
TOTAL		60,00	2,40

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
INDIVIDUAL WORK M13	R12	30,00	1,20
GROUP WORK M10, M13	R11, R12	60,00	2,40
TOTAL		90,00	3,60



Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
BLOCK I. GENERAL MICROBIOLOGY	1. Introduction to Microbiology2. Bacterial Basics2.1. Bacterial Growth2.2. Bacterial Metabolism2.3. Sterilization and Disinfection2.4. Bacterial Genetics2.5. Bacterial Pathogenesis2.6. Bacterial Genera of Dental Interest3. Virus Basics3.1. DNA Viruses3.2. RNA Viruses3.3. Retroviruses4. Fungi
BLOCK II. IMMUNOLOGY AND ANTI-INFECTIVE THERAPY	5. Anti-infective therapy6. Immunology
BLOCK III. CLINICAL MICROBIOLOGY	Tema 7. Endocarditis y sepsisTema 8. Infecciones de piel y partes blandasTema 9. Infecciones tracto urinarioTema 10. Infecciones SNCTema 11. Infecciones tracto respiratorio
BLOCK IV. ORAL MICROBIOLOGY	Topic 12. Diseases of the oral microflora and dental plaqueTopic 13. CavitiesTopic 14. Periodontal diseasesTopic 15. Pulp diseasesTopic 16. Salivary gland infections



Temporary organization of learning:

Block of content	Number of sessions	Hours
BLOCK I. GENERAL MICROBIOLOGY	10,00	20,00
BLOCK II. IMMUNOLOGY AND ANTI-INFECTIVE THERAPY	2,00	4,00
BLOCK III. CLINICAL MICROBIOLOGY	8,00	16,00
BLOCK IV. ORAL MICROBIOLOGY	10,00	20,00

References

- 1.MICROBIOLOGÍA ORAL -.Liebana Ureña, J.- 2ª ed. España - McGraw-Hill Interamericana -2002.
- 2.MICROBIOLOGÍA ESTOMATOLÓGICA. FUNDAMENTOS Y GUÍA PRÁCTICA - Negróni, M. -2ª ed. Buenos Aires. Editorial Médica Panamericana; 2009.
- 3.Essential Microbiology for Dentistry - Samaranayake, L. 5th Edition. Churchill Livingstone.2012.